



UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

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HUMAN RESOURCES
DIVISION

July 8, 1983

Carolyn K. Davis, Ph.D.
Administrator
Health Care Financing Administration
Department of Health and Human Services

Dear Dr. Davis:

Subject: Analysis of Durable Medical Equipment Claims
at Kansas City Blue Shield (GAO/HRD-83-73)

Our office is analyzing reimbursement for Durable Medical Equipment (DME) at four Medicare carriers covering all or a portion of five States^{1/}. Our work was requested by the Chairman of the Senate Committee on Finance. Because of Congressional, industry, and Health Care Financing Administration (HCFA) interest in the probable effects of July 1982 HCFA instructions to its carriers on DME reimbursement, we will report periodically on our progress. This is the first such report and it covers work done at Kansas City Blue Shield completed as of June 1983.

The problem of excessive DME rental payments--which the recent HCFA instructions encouraging the purchase of low-cost items (defined as \$120 or less) are intended to minimize--has been the subject of HCFA-financed and GAO studies. In July 1982 we issued a report entitled "Medicare Payments for Durable Medical Equipment are Higher than Necessary" (HRD-82-61). In this report, we estimated, based on 10 statistical samples at 6 carriers, that excess rental payments were about \$2 million or 21 percent of these carriers' total 1979 DME payments. We also estimated that about one-third of these excess payments could have been avoided if a 1977 law had been implemented requiring Medicare reimbursement based on the purchase of DME items when more economical than rental. In HRD-82-61 we recommended that

^{1/}The four carriers and States included in the review are:
Prudential Insurance Company of North America (Georgia);
Equitable Life Assurance Society of the United States
(Idaho); Transamerica Occidental Life Insurance Company
(Southern California); and Blue Shield of Kansas City
(Portions of Kansas and Missouri).

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HCFA require carriers to reimburse on a purchase basis for items costing \$100 or less and for more expensive items if the anticipated period of need indicated that purchase would be more economical.

In October 1982, Williams College (Williams) under a HCFA grant, issued a preliminary report entitled "Determinants of Current and Future Expenditures on DME by HCFA and its Program Beneficiaries." The study included simulations of alternative DME reimbursement policies. The simulations were based on an analysis of 21,658 DME rental episodes^{2/} which occurred in 7 states involving four Medicare carriers for a 17 month period during calendar years 1976 and 1977. The report concluded that HCFA's new instructions should not be implemented because under the assumptions used by Williams, which it said were reasonable, the new requirements would result in increased program costs. The final report, issued in April 1983 contained essentially the same conclusions.

In November 1982, the Chairman of the Senate Committee on Finance requested that GAO evaluate the responsiveness of HCFA's new regulations and instructions to the concerns expressed in HRD-82-61. Subsequently, the staffs of the Finance Committee and the House Committee on Ways and Means and other congressional sources said that they were interested in finding out why the GAO and Williams studies' findings and conclusions differed.

OBJECTIVES, SCOPE AND METHODOLOGY

One of the reasons for the different findings and conclusions in our 1982 report and in the Williams' study was different average rental episode lengths. To determine why these differed, we compared the 1976-1977 rental episode lengths included in the Williams' study with our 1979 data after restructuring our data into rental episodes similar to the Williams' study presentations. We also compared the episode lengths found at Kansas City Blue Shield in 1979 and used in HRD-82-61 with more recent and complete information (see below).

For HRD-82-61, we developed savings estimates using two different sampling techniques. Statistical samples were selected from both 1-month and 1-year periods. Because sample episode lengths from 1-year periods were closer to those in the Williams study, we wanted to determine if the samples from 1-month periods yielded atypical average episode lengths. Six of the 10 samples used in HRD-82-61 were selected from 1-month periods.

^{2/}An episode is defined as a beneficiary renting a single DME item for a period of time.

Two 1-month samples were from Kansas City Blue Shield and two were from Prudential Insurance Co. (Georgia) and included both oxygen and non-oxygen related DME items. These four samples accounted for 49 percent of our total sample episodes. This letter deals with the results of our work to date at Kansas City Blue Shield.

We have also selected two of the seven locations and the related carriers (Occidental for Southern California and Equitable for Idaho) included in the Williams' study. These carriers accounted for about 45 percent of the Williams' rental episodes.

The information used in our 1981-1983 episode analysis for Kansas City Blue Shield was based on a computer tape obtained from the Department of Health and Human Services (HHS) Regional Audit Office of the Inspector General in Kansas City, Missouri. The Regional Audit Office also provided schedules and other materials developed in its computer-assisted analysis of DME claims. We used this information to determine whether any savings would be realized if items costing \$120 or less were routinely purchased.

The Regional Audit Office's computer tape covered DME transactions for the period October 1, 1980 to January 31, 1983, and contained about 471,000 rental, purchase, and installment purchase claims processed during the 28 months. The claims represented about \$19.6 million in allowed charges for prosthetic devices, medical supplies, oxygen gas, oxygen and non-oxygen related DME. Allowed rental charges totaled about \$10.3 million for the 272,000 rental claims. We have not tested source documents to determine if the data on the tape was complete and accurate; however, we have made certain consistency edits to assure that only the appropriate procedure codes were included.

The computer tape contained rental charges under 105 procedure codes. Because it included claims for items such as prosthetic devices and oxygen cylinders which we did not want to include in our analysis, we excluded such claims and analysed only those related to the classes or types of items shown in appendixes I and II. We also found that the tape included a few calendar year 1979 claims which we eliminated.

Our analysis featured a computer program we developed which identified DME rental episodes with initial dates of service in either the third, fourth, or fifth months of tape history, i.e., December 1980, January 1981, and February 1981. The program then searched the remaining 23-25 months to calculate how long an episode lasted. Our analysis assumed that a 2 month period without a rental charge constituted a break in the rental of that item.

million in allowed rental charges or about 11 percent of the total allowed charges for all DME rentals during the 28-month period included in our modified tape.

COMPARISON OF WILLIAMS
AND GAO STUDIES

The major difference between GAO's 1982 and Williams' findings involved the distribution of DME rental episode lengths. We identified a higher percentage of rentals lasting longer than 12 months and a smaller percentage lasting 1 and 2 months. Consequently, we concluded that savings would result from purchasing low cost DME items while Williams concluded that HCFA's new instructions would probably increase program costs.

The comparison of the rental episode lengths in the two studies showed that about 64 percent of the Williams' study's episodes were for 1 and 2 months and only about 8 percent were over a year. Our sample data from the six carriers included in the 1982 study showed 22 percent for 1 and 2 months and 33 percent lasting more than a year.

To some extent, the difference in rental episode lengths may have been caused by different sampling techniques. As previously noted, we selected our samples of beneficiaries renting or purchasing DME items from both 1-month and 1-year periods. The samples for the different periods showed different distributions of short-term (1 and 2 months) rentals. Samples from 1-month periods may have understated the incidence of short-term rentals and accordingly overstated the potential savings from purchasing low-cost items.

The following schedule compares DME rental episode lengths found by GAO at Kansas City Blue Shield and by Williams in all seven of the service areas it studied. The 1979 episodes are from our prior review (HRD-82-61) whereas the 1981-1983 data was developed for our current review. Williams study data was from a 17 month period during calendar years 1976-1977.

Length of Rental Episode	Oxygen Related DME						Non-Oxygen Related DME					
	Williams a/ 1976 - 1977		GAO-Kansas City Blue Shield				Williams a/ 1976 - 1977		GAO-Kansas City Blue Shield			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1 and 2 months	5,094	68.2	31	11.0	476	28.5	8,702	61.3	58	27.6	849	47.3
3 and 4 months	906	12.1	41	14.5	207	12.4	1,966	13.9	31	14.8	261	14.5
5 and 6 months	433	5.8	41	14.5	174	10.4	1,033	7.3	15	7.1	139	7.7
7 and 8 months	281	3.8	33	11.7	130	7.8	546	3.8	13	6.2	65	3.6
9 and 10 months	183	2.4	24	8.5	84	5.0	434	3.1	10	4.8	80	4.5
11 and 12 months	148	2.0	29	10.2	90	5.4	286	2.0	15	7.1	53	3.0
13 to 18 months	186	2.5	84	29.7	132	7.9	258	1.8	26	12.4	112	6.2
19 to 23 months	102	1.4	-	-	115	6.9	305	2.1	15	7.1	79	4.4
24 plus months	132	1.8	-	-	264 c/	15.8	663	4.7	27	12.9	158 c/	8.8
Total	7,465	100.0	283	100.0	1,672	100.0	14,193	100.0	210	100.00	1,796	100.0

Note a/: This includes all service areas covered in the Williams Study. Although Kansas City Blue Shield's service area was not included in the study, the study concluded that the areas covered were broadly representative of the entire nation.

Note b/: The length of these episodes may be understated because 34 episodes were still going on at our December 1979 cutoff.

Note c/: There were 212 (of the total 422) episodes lasting 24 months or longer which began in our 3-month base period and could have continued beyond January 1983, the last month of claims used in our analysis.

The above table indicates that our 1979 study samples may have underestimated the incidence of short-term rental episodes for DME items at Kansas City Blue Shield, but not enough to modify our conclusions with respect to reimbursement for low-cost items on a purchase basis. Our 1981-83 episode analysis developed using the same basic methodology as the Williams study but over a longer period (27 instead of 17 months) shows fewer short-term and more long-term episodes than the Williams study. About 29 percent of 1981-83 oxygen related episodes and 47 percent of non-oxygen related DME episodes lasted 1 and 2 months compared to about 68 percent and 61 percent, respectively, of the 1976-77 Williams study episodes. About 31 percent of 1981-83 oxygen related episodes and about 19 percent of non-oxygen related episodes lasted more than a year compared to about 6 percent and about 9 percent, respectively, of the 1976-77 Williams study episodes.

A further breakdown of rental episodes by major types of oxygen and non-oxygen related DME equipment is included in appendixes III and IV. We classified these items into two categories because of the industry's contention that many oxygen-related items should always be rented due to their maintenance or service requirements.

RENT-PURCHASE ALTERNATIVE FOR LOW COST ITEMS

Our analyses of four commonly rented items costing under \$120 shows that consistent with HCFA's new instructions, it would have been more economical to reimburse on a purchase basis for those items. Regulator/flowmeters, and small humidifiers (oxygen related), and standard walkers and standard non-folding commodes (non-oxygen related) accounted for about \$236,000 or 22 percent of the total rental allowances related to the 3,479 rental episodes starting in our 3-month base period. We compared the total rental allowances for these items for all episodes (which ranged from 1 to 26 months) with the purchase price based on (1) the average allowed amounts for these items purchased during the 28-month period, and (2) the average billed amounts for purchases during the same period.

As shown on the following table, it would have been more economical to purchase these items based on either the allowed or billed amounts.

Potential Savings From
Purchase of Four Commonly
Rented DME Items

<u>Item</u>	<u>Number of episodes</u>	<u>Total allowed amount for rentals</u>	<u>Average purchase allowance</u>	<u>Total allowed charges if purchased</u>	<u>Potential savings from purchase based on allowed charges</u>	<u>Average billed charges for purchase</u>	<u>Total billed charges if purchased</u>	<u>Potential savings from purchase based on billed charges</u>
Regulator/ Flowmeters	643	\$173,258	\$77.62	\$49,910	\$123,348	\$90.52	\$58,204	\$115,054
Humidifiers	199	14,373	9.19	1,829	12,544	15.19	3,023	11,350
Comodes	275	32,796	50.84	13,981	18,815	74.43	20,468	12,328
Standard Walkers	<u>147</u>	<u>16,127</u>	41.60	<u>6,115</u>	<u>10,012</u>	54.11	<u>7,954</u>	<u>8,173</u>
Totals	<u>1,264</u>	<u>\$236,554</u>		<u>\$71,835</u>	<u>\$164,719</u>		<u>\$89,649</u>	<u>\$146,905</u>

KANSAS CITY REGIONAL
AUDIT OFFICE ANALYSIS

Data obtained from the Inspector General's Regional Audit Office also supported the thrust of HCFA's instructions that overall it is more economical to purchase rather than to rent DME items costing less than \$120.

To determine if the routine purchase of at least some DME items would be more economical than renting, the auditors analyzed DME rental transactions for Kansas City Blue Shield for the period October 1, 1980 through January 31, 1983. The analysis included about 32,000 DME items with allowed rental charges totaling about \$8.5 million.

The Regional Audit Office analysis determined the total rental allowance by item (procedure code) and estimated the number of items rented by determining the number of beneficiaries associated with each procedure code.

The Regional Audit Office estimated the program cost if the items had been purchased instead of rented by multiplying the number of beneficiaries renting specific items by the prevailing charge for the purchase of these items as of July 1982. The Regional Audit Office used the difference between these amounts (total rental allowances and total purchase allowances) to determine if purchase or rental would be more economical. Regional Audit Office data showed there were 20 DME items with a prevailing charge of \$120 or less and that savings would be realized on 16 of the 20 items if routinely purchased.

Net savings estimated for non-oxygen related DME items were \$416,604 or about 51 percent of total rental allowances of \$822,226. Individual DME items which contributed most to the savings were non-folding standard commodes (\$189,722), standard walkers (\$80,800), and quad canes (\$47,056). The two items which reduced savings if always purchased were walking aids (\$707) and pelvic traction units (\$552).

For oxygen related DME items, Regional Audit Office data showed that if items under \$120 were routinely purchased, a net savings of \$319,484 would have been realized or about 39 percent of the total rental allowances of \$827,849. The major contributor to the potential savings were oxygen regulators with flow meters (\$258,082). Again, two items reduced savings if routinely purchased: standard oxygen regulators (\$57,488) and oxygen cylinders (\$17,973).

We have obtained or have arranged to obtain the payment history tapes for comparable 1981-1983 periods from the other carriers included in this review (Prudential from Georgia,

We have obtained or have arranged to obtain the payment history tapes for comparable 1981-1983 periods from the other carriers included in this review (Prudential from Georgia, Occidental for Southern California, and Equitable for Idaho). We will keep you informed of how this more current data compares with our 1979 sample data and Williams' 1976-1977 study data.

Sincerely yours,

A handwritten signature in cursive script that reads "Thomas Dowdal". The signature is written in black ink and is positioned below the typed name.

Thomas Dowdal
Group Director

KANSAS CITY BLUE SHIELD
Summary of Types of Rented and Purchased
Oxygen Related DME Items
(October 1, 1980 to January 31, 1983)

Type of Item	Rented		Purchased			Total	
	Number a/	Amount Allowed	Number b/	Amount Billed	Amount Allowed	Number	Amount Allowed
Concentrators	N/A	\$2,708,513	3	\$3,139	3,006	N/A	2,711,519
Regulators & Regulator/ flowmeters	3,528	554,365	66	5,954	4,997	3,594	559,362
Humidifiers	2,736	168,257	57	947	598	2,793	168,855
IPPB Machines	306	181,395	18	10,834	6,605	324	188,000
Linde Reservoirs	N/A	128,132	5,669	250,984	214,202	N/A	342,334
Maxi Mists	637	209,415	193	26,626	18,105	830	227,520
Oxygen Stands	1,765	109,638	17	572	478	1,782	110,116
Portable oxygen units	613	139,101	43	8,210	5,272	656	144,373
Cryogenic liberators and strollers	N/A	461,649	-	-	-	N/A	461,649
Linde Walker systems	N/A	211,689	-	-	-	N/A	211,689
Other	N/A	211,123	41	5,148	3,689	N/A	214,812
Total	N/A	\$5,083,277	6,107	\$312,414	\$256,952	N/A	\$5,340,229

N/A = Not Available

Note a/: Based on the number of beneficiaries associated with a specific procedure code.

Note b/: Based on the number of services, excluding installment purchases.

KANSAS CITY BLUE SHIELD
Summary of Types of Rented and Purchased Non-Oxygen Related
DME Items October 1, 1980 to January 31, 1983

Type of Item	Rented		Purchased			Total	
	Number a/	Amount Allowed	Number b/	Amount Billed	Amount Allowed	Number	Amount Allowed
Commodes	3,738	\$511,447	462	\$34,446	\$23,583	4,200	\$535,030
Walkers	1,846	192,902	1,083	59,760	45,787	2,929	238,689
Wheel Chairs	4,631	1,339,800	837	416,942	228,085	5468	1,567,885
Hospital Beds:							
Standard	1,485	506,923	52	25,816	14,425	1,537	521,348
Electric	1,776	1,393,204	67	59,685	30,902	1,843	1,424,106
Bed Rails	3,080	332,972	83	13,030	5,770	3,163	338,742
Mattresses	250	48,347	24	2,126	1,715	274	50,062
Trapeze Bars	1,092	149,906	47	5,917	3,807	1,139	153,713
Canes and Crutches	523	67,197	1,043	31,563	26,424	1,566	93,621
Electric elevator chairs	21	4,638	1,937	1,629,092	551,819	1,958	556,457
Other	<u>1,128</u>	<u>317,364</u>	<u>63</u>	<u>15,390</u>	<u>10,300</u>	<u>1,191</u>	<u>327,664</u>
Totals	<u>19,570</u>	<u>\$4,864,700</u>	<u>5,698</u>	<u>\$2,293,767</u>	<u>\$942,617</u>	<u>25,268</u>	<u>\$5,807,317</u>

Note a/: Based on the number of beneficiaries associated with a specific procedure code.

Note b/: Based on the number of services, excluding installment purchases.

KANSAS CITY BLUE SHIELD
Rental Episodes Beginning In
December 1980, January 1981, or February 1981
Oxygen Related DME Distribution
of Episodes by Length
of Rental

Length of Rental Episode	Concentrators	Regulators & Regulator Flowmeters	Humidifiers	IPPB machines	Linde reservoirs	Maxi-mists	Oxygen stands	Portable oxygen units	Cryogenic strollers & liberators	Linde walker systems	Other	Total
1 and 2 months	34	160	62	13	21	14	41	18	10	20	83	476
3 and 4 months	12	89	16	7	12	7	20	7	-	11	26	207
5 and 6 months	20	58	16	3	16	10	16	2	2	1	30	174
7 and 8 months	6	48	9	-	22	3	5	2	-	2	33	130
9 and 10 months	10	37	13	1	4	1	7	1	-	3	7	84
11 and 12 months	5	57	17	1	-	1	4	2	-	3	-	90
13 to 18 months	14	65	17	4	-	5	17	5	-	1	4	132
19 to 23 months	14	47	18	1	-	4	17	2	-	7	5	115
24 plus months	15	161	35	1	-	10	28	8	-	2	4	264
Total	130	722	203	31	75	55	155	47	12	50	192	1,672

KANSAS CITY BLUE SHIELD
Rental Episodes Beginning In
December 1980, January 1981, or February 1981
Non-Oxygen Related DME
Distribution of Episodes by
Length of Rental

Length of Rental Episode	Commodes	Walkers	Wheel- chairs	Hospital Beds		Bed Rails	Mat- resses	Trapeze Bars	Crutches and Canes	Electric Elevator Chairs	Other	Total
				Standard	Electric							
1 and 2 months	157	93	209	76	58	125	9	45	23	2	52	849
3 and 4 months	51	28	50	17	33	42	1	16	7	-	16	261
5 and 6 months	35	13	28	13	10	20	-	7	3	-	10	139
7 and 8 months	19	7	17	5	3	7	-	4	1	-	2	65
9 and 10 months	13	9	19	7	9	16	1	1	-	-	5	80
11 and 12 months	8	4	8	5	5	10	1	6	2	1	3	53
13 to 18 months	21	12	13	15	13	22	5	5	3	-	3	112
19 to 23 months	12	10	13	3	11	20	1	4	1	-	4	79
24 plus months	31	7	41	9	19	29	-	12	6	-	4	158
Total	347	183	398	150	161	291	18	100	46	3	99	1,796